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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,388	10/21/2003	Vladimir Gurevich	1549	2379

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EXAMINER

QI, ZHI QIANG

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/690,388

Applicant(s)

GUREVICH ET AL.

Examiner

Mike Qi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1-2, 10-12 and 20-21 are objected to because of the following informalities:

1) Recitation "... external to ..." or "... internal to ..." that is not definite to define the structure relationship. The location of the elements in a device cannot be definitely determined by "internal to" or "external to". Such that the structure relationship should be interpreted as the location indicated in the Figs.1-2.

2) The terminology "circular X-polarizer" is not clear. Because X-polarizer means the light of the polarization direction is parallel to the X-direction, and that is a linear polarized light. The linear polarized light can be converted into circular polarized light such as through retardation. The invention is to use circular polarizer. Therefore, the polarizer should be circular polarizer.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-5, 8, 10-11, 13-15, 18 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,462,805 B1 (Wu et al).

Claims 1, 8, 10, 18 and 20, Wu discloses (col.6, line 57 – col.7, line 54;

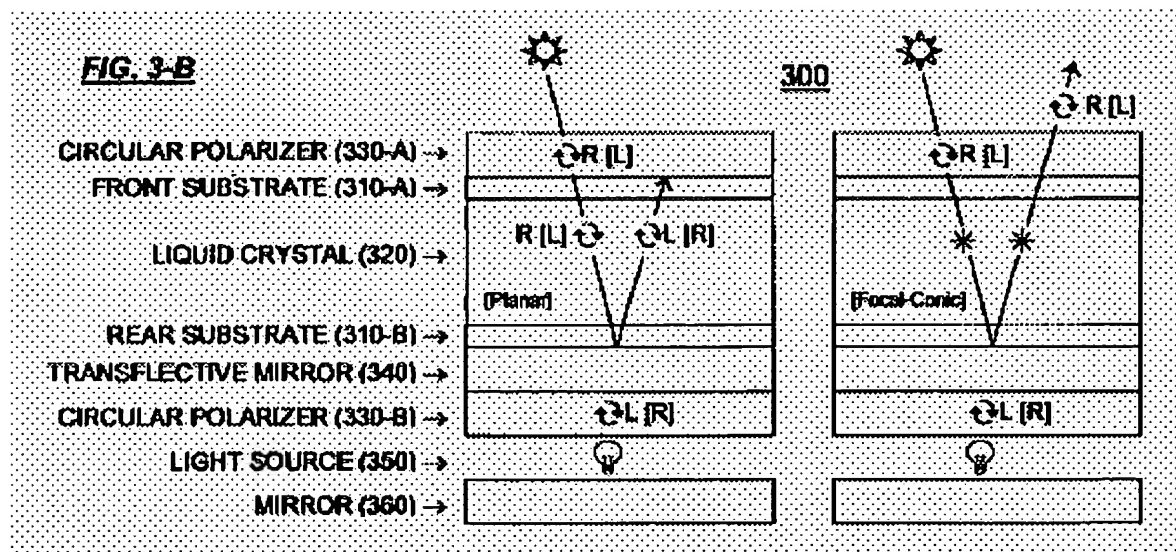
Figs.3A,3B) that a liquid crystal display comprising:

- back light (light source 350 and mirror 360) on a bottom surface of the display device for generating light and transmitting light;
- transflective mirror (340) (two-way mirror) is positioned on the outer surface of the rear substrate (310-B) (out surface of the LCD);
- circular polarizer (330B) (first circular polarizer) disposed at the rear of the transflective mirror and also at the rear of the liquid crystal display;
- circular polarizer (330-A) (second circular polarizer) disposed at the front of the LCD, and the circular polarizer having the function to absorb the reflected external incident light and transmitted light, and that is the property of the circular polarizer.

Claims 3 and 13, Wu discloses (col.4, lines 36-39) that the device is a transflective display.

Claims 4-5, 14-15, Wu discloses (col.4, lines 36-39) that the device is a reflective display using a front-lit (front light).

Claim 11, Wu discloses (Figs.3A,3B) that using a liquid crystal display (310-A, 320, 310-B) between the two circular polarizers (330-A, 330-B) generating images.



Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6-7, 9, 16-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu as applied to claims 1, 3-5, 8, 10-11, 13-15, 18 and 20 above, and further in view of US 6,853,421 B2 (Sakamoto et al).

Claims 6-7, 9, 16-17 and 19, lacking limitation is such that the first circular polarizer having a linear polarizer and a quarter-wave plate, and the second circular polarizer having a linear polarizer and a quarter-wave plate, and the liquid crystal display be set to quarter-wave retardation or zero-wave retardation.

However, Sakamoto discloses (col.8, line 59 – col.9, line 44; Fig.2) that a liquid crystal display arranged the polarization plate (19b) and quarter-wave plate (20b) on the upper side (as the second circular polarizer), and the quarter-wave plate (20a) and the polarization plate (19a) on the lower side (as the first circular polarizer), so that the liquid crystal display is set to quarter-wave retardation. Sakamoto indicates (col.9, lines 2-14) that linear-polarized (horizontal) light passing through the polarizing plate (19b) is transformed into circular-polarized light, and this circular-polarized light is transformed by the quarter-wave plate (20b) into linear-polarized (horizontal) light and then goes out of the polarized plate (19b) having the horizontal optical axis, thus giving white display (to provide normal-white state of reflection region), and the liquid crystal display is set to quarter-wave retardation. Sakamoto also indicates (col.9, lines 28 – 44) that in order to cancel (compensate) for an influence by the upper side quarter-wave plate (20b), the lower quarter-wave plate (20a) is arranged, thus providing black display with a voltage applied.

Since in order to provide a normal-white display and black display with voltage applied using circular polarization, the skilled in the art would use linear polarizer and quarter-wave plate to obtain the circular polarization.

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to arrange linear polarizer and quarter-wave plate forming the circular polarizer and using quarter-wave retardation as claimed in claims 6-7, 9, 16-17 and 19 for achieving normal-white display and black display with voltage applied using circular polarization.

6. Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu as applied to claims 1, 3-5, 8, 10-11,13-15, 18 and 20 above, and further in view of US 6,738,117 B2 (Minakuchi).

Claims 2 and 12, lacking limitation is such that using touch pad between the second (upper) circular polarizer and liquid crystal display.

However, Minakuchi discloses (col.6, lines 58 – 64; Fig.8) that using touch panel (4) as a transparent protection plate. As the explanation above and Minakuchi indicated (col.1, lines 40-41) that a polarizing plate and a quarter-wave plate would obtain a circular polarizing plate, so that the polarizing plate (2) and quarter-wave plate (1) would form a circular polarizer. Therefore, the touch panel (4) is arranged between the circular polarizer and the liquid crystal display (20).

Minakuchi indicates (col.1, line 66 – col.2, line 2) that such protection plate (using touch panel as a transparent protection plate) improves the brightness, visibility and viewing angle characteristic of the display.

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to arrange a touch pad between the second (upper) circular polarizer and the liquid crystal display as claimed in claims 2 and 12 for achieving the improvement of the brightness, visibility and viewing angle characteristic of the display.

7. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu as applied to claims 1, 3-5, 8, 10-11,13-15, 18 and 20 above, and further in view of US 6,642,977 B2 (Kotchick et al).

Claim 21-23, lacking limitation is such that the display device is used in a

computing device having a processor processing data, such as a mobile computing device having wireless communication arrangement.

However, kotchick discloses (col. 18, lines 6-33;Fig.9-10) that using computer system having processing unit (CPU) processing data, such as using phone to collect data, and through wireless connection being connected to a computer network, and that the liquid crystal display used in the computing device would only given weight as an intended use as any display can be used in that computing device, and that would have been at least obvious.

8. Claims 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu and Kotchick as applied to claims 1, 3-5, 8, 10-11,13-15, 18, 20 and 21-23 above, and further in view of US 5,548,108 (Moldskred et al).

Claims 24-25, lacking limitation is such that a data capturing arrangement obtaining data, such as using barcode reader or RFID reader.

However, Moldskred discloses (col.1, lines 20-53) that it is known in the art to use a non-contact scanning device to cause a beam of light to scan across an area containing a barcode, and such scanning symbols would decode and store data fast where a large number of symbols are read within a short period of time, and that is used in the known market.

Therefore, it would have been obvious to those skilled in the art at the time the invention was made to use data capturing arrangement obtaining data, such as using barcode reader or RFID reader as claimed in claims 24-25 for achieving a large number of symbols are read within a short period of time.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Qi whose telephone number is (571) 272-2299. The examiner can normally be reached on M-T 8:00 am-5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Qi

Mike Qi
Patent Examiner